



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,456	01/06/2004	Keiko Neriishi	Q79312	2358
7590 12/14/2005				
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, NW Washington, DC 20037-3213			EXAMINER MALEVIC, DJURA	
			ART UNIT 2884	PAPER NUMBER

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,456

Applicant(s)

NERIISHI ET AL.

Examiner.

Djura Malevic

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/06/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Leblans *et al.* (US 6,967,339).

With regards to claim 1, Leblans discloses a radiation image storage panel (Col. 7, Line 45) comprising a phosphor layer produced by gas phase deposition and composed of prismatic phosphors (Col. 12, Line 25), wherein the phosphor layer has a relative density higher or the same on the lower side than as the upper side (Col. 12, Line 38). The said prismatic phosphors also have a diameter, which is larger on the upper side than on the lower side (Col. 6, Line 47) (Fig 1).

With regards to claim 2, Leblans discloses the relative density of the phosphor layer decreases from the lower side to the upper side, while the diameter of the prismatic phosphors increases from the lower side to the upper side (Col. 6, Line 47) (Fig 1).

With regards to claim 3, Leblans discloses the phosphor having a diameter between the range of 2 μ m and 10 μ m, thus including the claimed range of 0.1 μ m to 50 μ m (Col. 12, Line 38).

With regards to claim 4, Leblans discloses the relative density of the phosphor between the ranges of 0.70 and 0.90, thus including the claimed range of 0.75 to 0.96 (Col. 12, Line 38).

With regards to claim 6, Leblans discloses that the phosphor is a stimuable phosphor (Col. 6, Line 12).

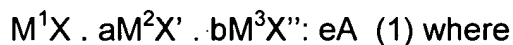
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leblans in view of Van den Bergh *et al.* (US 6,815,092 B2).

With regards to claim 7, Leblans does not expressly disclose the phosphor having the formula:



M^1 being at least one metal element selected from the group consisting Li, Na, K, Rb and Cs. M^2 being at least one divalent metal element selected from the group consisting Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni. M^3 being at least one trivalent metal

Art Unit: 2884

element selected from the group consisting Sc, Y, La, Ce Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga, and In. X, X'₂ and X''₃ are each a halogen selected from the group consisting F, Cl, Br and I. A is a metal selected from the group consisting Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm, Y, Tl, Na, Ag, Cu and Mg; Also, a, b and e satisfy the following conditions: $0 \leq a < 0.5$; $0 \leq b < 0.5$; and $0 < e < 1.0$.

Van den Bergh teaches that preferred phosphor panels comprise phosphor with the general formula (1) (Col. 13, Line 65). Leblans and Van den Bergh are analogous art because they both are from the same field of endeavor, phosphor panels.

It would have been obvious at the time of the invention was made to a person of ordinary skill in the art to modify Leblans to include a stimuable phosphor with the preferred formula such as that taught by Van den Bergh in order to achieve good speed of the recording system with an image with high sharpness and low noise (Col. 13, Line 63 to Col. 14, Line 59).

With regards to claim 8, Leblans discloses the stimuable phosphor is an europium activated cesium bromide phosphor (Col. 6, Line 13).

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 5, the prior art of record does not suggest or teach a radiation image storage panel, wherein the lower portion of the panel, meaning the portion closest to the substrate, comprises a prismatic phosphor having a diameter which is larger on the upper side than on the lower side. Although, references like Wilson, Jr *et al.* (2003/0134157 A1) teaches that phosphor particles with small diameters will develop into an efficient conversion panel, Wilson shows no concern or suggest any modification intended for a prismatic phosphor having a diameter which is larger on the upper side of the panel than on the lower side of the panel (closest to the substrate). As such, applicant's disclosure provides a novel and non-obvious improvement over the prior art. Accordingly, claim 5 has allowable subject matter.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djura Malevic whose telephone number is 571.272.5975. The examiner can normally be reached on Monday - Friday between 8:30am and 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2884

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djura Malevic
Patent Examiner
Art Unit 2884
571.272.5975



DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY